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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/225,486	01/06/1999	MITSUHIRO UCHIDA	Q52871	2417

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EXAMINER

HANNETT, JAMES M

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/225,486	Applicant(s) UCHIDA ET AL.	
	Examiner James M. Hannett	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,10,13,15,17-20 and 22-32 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,3,19,20,23-25,27 and 30-32 is/are allowed.
- 6) ☒ Claim(s) 10,13,15,17,18,22,26,28 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 10/20/2005 have been fully considered but they are not persuasive. The applicant argues that the examiner contends, "Abe teaches that an image is compressed by dividing a high resolution image into a plurality of 8x8 blocks of pixels" on the second page of the Office Action. The applicant then argues that Abe does not teach that an image is "compressed" when forming the 8x8 blocks. Furthermore, the applicant argues that Abe does not teach the "averaging" of pixel values in the 8x8 block and points out that Abe teaches that a representative pixel is obtained in each block and it is supposed that this representative pixel shows an average luminance value of the block. The applicant argues that the representative pixel "is supposed" to show an average, but there is not disclosure that it must be an average value. Accordingly, the applicant asserts that Abe does not disclose or suggest that the 8x8 blocks are averaged.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., compressing the image and averaging the 8x8 blocks) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The examiner stands by his description of the Abe reference. The examiner points out that Claim 15 does not require compression or averaging of an 8x8 block of pixels. Even assuming that the 8x8 blocks of pixels in Abe is not averaged to form an average luminance value, this feature is not claimed. The applicant merely claims that the characteristic value is

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extracted using a reduced image and further corresponds that reduced image to a thumbnail image. Furthermore, Abe teaches on Column 3, Lines 59-65 that a representative pixel for each block is obtained and that a comparison based on only the representative pixels from each block is performed. Because the processing is performed only on the reduced set of pixels (i.e. the representative pixels), this reduced set of images is viewed by the examiner as a thumbnail image. The applicant does not claim that the thumbnail image is a compressed version of the original by averaging the pixels in 8x8 blocks of pixel.

The applicant argues that Nakamura does not teach all the limitations of Claim 10 and points out that the characteristic value of an image sensing device is extracted from digital image signals of a plurality of images. The applicant points out that the embodiment on which the examiner relied upon requires that an image be photographed and recorded on photographic film. Therefore, Nakamura does not disclose “extracting a characteristic value representing a characteristic of an image sensing device from digital image signals of a plurality of images.

The examiner disagrees with the applicant and points out that although the images used to extract characteristic values representing a characteristic of an image sensing device in Nakamura are originally captured by film cameras, the images originally captured on film are digitized using CCD (22). Furthermore, the characteristic values are extracted from the digital images which were digitized by the CCD (22). Although portable digital cameras did not originally capture the images, the applicant does not claim this feature.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1: Claims 15, 17, 22, 26, 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,568,194 Abe.

2: In regards to Claim 15, Abe teaches in the abstract an image processing method for carrying out white balance (image processing) on a digital image signal. Abe teaches the use of extracting the luminance signal from digital image signals from two images of subjects photographed by a digital camera. Abe further teaches the use of carrying out image processing according to the luminance value on the digital image signals to perform a white balance adjustment. Abe teaches in the abstract the use of extracting the luminance signal from digital image signals from two images of subjects photographed by a digital camera. Abe teaches on Column 3, Lines 25-44 that the luminance signal is extracted from an image wherein pixel data from an original image is divided into N blocks, each of which is composed of an 8X8 matrix of pixels. Abe teaches on Column 3, lines 59-65 that a luminance comparison function is performed that gives the difference between the luminance signals of the two images. Abe teaches that the difference is calculated by comparing a representative pixel for each block which corresponds to the average luminance value of the block (Column 3, Lines 62-64). The process of taking 8X8 pixel blocks and averaging the pixel values to obtain a single average luminance value reduces the number of pixels and is viewed as a thumbnail image. Abe teaches capturing two images and dividing each image into blocks of 8X8 pixels. Abe further teaches obtaining an average luminance value of the block (Column 3, Lines 62-64). This process reduces the number of pixels in the image by a factor of 64. These thumbnail images are then compared on a pixel-by-

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pixel basis to obtain the luminance difference signal. Therefore, each of the thumbnail image signals (the two input images after averaging of the 8x8 blocks) comprises a reduced size image of its respective image of a plurality of images. Abe teaches on Column 3, lines 59-65 each of the thumbnail image signals produces an image duplicative of its respective image of the plurality of images and having a reduced physical appearance in relation to its respective image of the plurality of images.

3: As for Claim 17, Abe teaches in the abstract the use of recording means or memory for recording the digital image signals to memory.

4: In regards to Claim 22, Abe teaches on Column 3, lines 59-65 and in the abstract that each of the plurality of images is stored as one image file. Abe teaches that the two images are captured separately and correspond to an image captured with a flash and without a flash. Therefore, it is inherent that the two images be stored separately.

5: In regards to Claim 26, Abe teaches on Column 3, lines 59-65 the digital image signals comprise the thumbnail image signals. The digital image signals are viewed as the representative pixels, and the pixels comprise the thumbnail image. Furthermore, one representative pixel for each block of 8x8 pixels is obtained and a comparison based on only the representative pixels from each block is performed. Because the processing is performed only on the reduced set of pixels (i.e. the representative pixels), this reduced set of images is viewed by the examiner as a thumbnail image.

6: As for Claim 28, Abe teaches in the abstract the use of extracting the luminance signal from digital image signals from two images of subjects photographed by a digital camera

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Column 3, Lines 25-44. Abe teaches that this process can be repeated many times for subsequent image captures. Therefore, this process is performed on more than two images.

7: In regards to Claim 29, Abe teaches in the abstract the use of extracting the luminance signal from digital image signals from two images of subjects photographed by a digital camera

Column 3, Lines 25-44. Therefore, the image processing (luminance signal extraction) is carried out on each of the plurality of images used in obtaining the characteristic value.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8: Claim 10 is rejected under 35 U.S.C. 102(e) as being anticipated by USPN 5,917,578

Nakamura.

9: In regards to Claim 10, Nakamura teaches in the abstract and on Column 3, Lines 41-45 an image processing method of carrying out image processing on a digital image signal,

Nakamura teaches the image processing method comprising: extracting a characteristic value representing a characteristic of an image sensing device from digital image signals of a plurality of images of subjects photographed by the image sensing device Column 4, Lines 37-60 and the abstract; Nakamura teaches on Column 9, Lines 45-57 carrying out image processing according to the characteristic value on the digital image signals; Nakamura teaches on Column 8, Lines

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42-62 the characteristic value, when each of the digital image signals is composed of RGB color signals, is a value regarding chroma of each of the digital image signals and the image

processing converts the chroma of the digital image signal, based on the characteristic value.

Nakamura teaches a system which converts image data captured on film into digital images using a CCD image sensor (Column 4, Lines 50-60). Nakamura teaches that the system will optically read image data, which corresponds to data, which allows the system to differentiate between the types of cameras used to capture the images (Column 3, Lines 55-58). Furthermore, Nakamura teaches that the read characteristic data can be used to correct chromatic aberrations in the image (Column 3, Lines 50-56). Therefore, Nakamura teaches performing converting the chroma information of the digital images based on the value read out from the characteristic value extracting means.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10: Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,568,194 Abe in view of USPN 5,682,573 Ishikawa et al.

11: As for Claim 18, Abe teaches the claimed invention as discussed in Claim 17, Abe does not teach the use of recording a flag indicating whether or not the digital image signal has been corrected after photographing in the recording medium together with the digital image signal.

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Abe further does not teach the method of extracting the characteristic value and performing image processing only on signals having the flag.

Ishikawa et al teaches on Column 20, Lines 35-51 a correcting operation wherein a flag indicating whether or not a digital image signal has been corrected after photographing in the recording medium together with the digital image signal. Ishikawa et al further teaches the method of extracting the characteristic value and performing image processing only on signals having the flag present (Column 20, Lines 43-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the flag indicating method of Ishikawa et al to the signal processing method of Abe in order to allow the method of extracting the characteristic value and performing image processing only on signals having the flag present.

12: Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,917,578 Nikamura in view of USPN 5,767,983 Terashita.

13: In regards to Claim 13, Nikamura teaches the claimed invention as discussed in Claim 10. However, Nikamura does not teach that the characteristic value is found based on the digital image signal from which high saturation pixels have been eliminated.

Terashita teaches on Column 40, Lines 30-37 that it is advantageous that a characteristic value is found based on digital image signals from which high saturation pixels have been eliminated. Therefore, improving the image quality.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to extract the characteristic value in Nikamura found based on digital image

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signals from which high saturation pixels have been eliminated as taught by Terashita in order to improve image quality.

Allowable Subject Matter

14: Claims 2, 3, 19, 20, 23-25, 27 and 30-32 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art teaches the use of an image processing method of carrying out image processing on digital images by extracting characteristic data, carrying out image processing according to the characteristic data, However, the prior art does not teach that the characteristic values used for the image processing can be calculated wherein Converted Red, Green, and Blue signals are calculated by the equations $\text{Converted Red} = R + k1(\text{Gave} - \text{Rave}) + k2(\text{Gi} - \text{Bi})$, $\text{converted Green} = G$, $\text{converted Blue} = B + k1(\text{Gave} - \text{Bave}) + k2(\text{Gi} - \text{Bi})$ where R, G and B are the RGB color signals, Ri, Gi and Bi are averages of the digital image signals, and Rave, Gave and Bave are total averages of averages of the digital image signals, and K1 and K2 are predetermined weight coefficients.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Hannett whose telephone number is 571-272-7309. The examiner can normally be reached on 8:00 am to 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc Yen Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James M. Hannett
Examiner
Art Unit 2612

JMH
January 9, 2006


NGOC YEN VU
PRIMARY EXAMINER